

REMARKS

In the Office Action, claims 1-16 were rejected. By the present Response, claims 17-21 are canceled. Claims 1-16 remain pending. Reconsideration and allowance of all pending claims are requested.

Rejections Under 35 U.S.C. §102

In the Final Office Action, the Examiner rejected claims 1-16 under 35 U.S.C. §102(b) as being anticipated by Zur et al., U.S. Patent 6,178,225 (hereinafter referred to as “the Zur reference”). Applicants respectfully traverse these rejections.

Legal Precedent and Guidelines

A *prima facie* case of anticipation under 35 U.S.C. §102 requires a showing that each limitation of a claim is found in a single reference, practice or device. *In re Donohue*, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985). Anticipation under section 102 can be found only if a single reference shows exactly what is claimed. *See Titanium Metals Corp. v. Banner*, 227 U.S.P.Q. 773 (Fed. Cir.1985). For a prior art reference to anticipate under section 102, every element of the claimed invention must be identically shown in a single reference. *See In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir.1990). That is, the prior art reference must show the *identical invention “in as complete detail as contained in the . . . claim”* to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989) (emphasis added). Thus, for anticipation, the cited reference must not only disclose all of the recited features but must also disclose the *part-to-part relationships* between these features. *See Lindermann Maschinenfabrik GMBH v. American Hoist & Derrick*, 221 U.S.P.Q. 481, 486 (Fed. Cir.1984). Accordingly, the Applicants need only point to a single element or claimed relationship not found in the cited reference to demonstrate that the cited reference fails to anticipate the claimed subject matter. A *strict correspondence* between the claimed language and the cited reference must be established for a valid anticipation rejection.

Furthermore, the pending claims must be given an interpretation that is reasonable and consistent with the *specification*. See *In re Prater*, 415 F.2d 1393, 1404-05, 162 U.S.P.Q. 541, 550-51 (C.C.P.A. 1969) (emphasis added); see also *In re Morris*, 127 F.3d 1048, 1054-55, 44 U.S.P.Q.2d 1023, 1027-28 (Fed. Cir. 1997); see also M.P.E.P. §§608.01(o) and 2111. Indeed, the specification is “the primary basis for construing the claims.” See *Phillips v. AWH Corp.*, No. 03-1269, -1286, at 13-16 (Fed. Cir. July 12, 2005) (*en banc*). One should rely *heavily* on the written description for guidance as to the meaning of the claims. See *id.*

Independent Claim 1

Independent claim 1 recites “[a] method for remotely operating an imaging system, comprising: reviewing information regarding an imaging system environment at a remote location; and activating the imaging system from the remote location based on the information regarding the imaging system environment.” In the rejection of claim 1 the Examiner stated:

Zur discloses reviewing information regarding an imaging system environment at a remote location (see Abstract, Figure 1, column 1, line 42 – column 2, line 24); and activating the imaging system from the remote location based on the information regarding the imaging system environment (see Abstract, Figure 1, column 1, line 42 – column 2, line 34 and column 3, line 20-column 4, line 18.

Final Office Action, p. 4.

1. The Zur Reference

After carefully reviewing the Zur reference, Applicants maintain that the Examiner’s grounds for rejecting independent claim 1 are without merit. Indeed, the Zur reference does not appear to be concerned with either the acquisition or remote review of information regarding the environment of an imaging system or the remote activation of an imaging system based upon information regarding the imaging system environment, as

recited in claim 1. Instead, the Zur reference appears to relate to a system by which the number of X-rays performed by an X-ray device are counted, i.e., metered, and this X-ray count is provided to a remote service center for the purpose of billing the facility operating of the X-ray device.

For example, the Abstract of the Zur reference, relied upon by the Examiner, states:

The present invention discloses a system for management of X-ray imaging facilities and services including at least one digital X-ray imaging facility operative to provide digital images in response to X-ray exposures; a metering system associated with each of said at least one digital X-ray imaging facilities for metering the number of digital images produced thereby; and a service center, generating a billing output for each of the at least one digital X-ray imaging facilities in respect of the number of X-ray exposures provided thereby.

Zur, Abstract (emphasis added)

Likewise, the other portions of the Zur reference relied upon by the Examiner state:

There is provided in accordance with a preferred embodiment of the present invention a method for management of X-ray imaging facilities and services including the steps of installing at least a part of a digital X-ray imaging facility; generating digital images corresponding to X-ray exposures; metering the number of X-ray exposures produced by the digital X-ray imaging facility; and generating a billing output in respect of the number of X-ray exposures.

In accordance with a preferred embodiment of the present invention, the metering step of the method for management of X-ray imaging facilities includes taking into account unacceptable exposures.

In further accordance with the present invention, the metering step includes a decision step wherein an operator decides whether to accept an exposure.

In yet further accordance with a preferred embodiment of the present invention, the method for management of X-ray imaging facilities and services also includes an archiving step wherein a generated digital image is retrievably stored.

Moreover, in accordance with a preferred embodiment of the present invention, the archiving step includes transferring the generated digital image to a remote archive.

In still further accordance with a preferred embodiment of the present invention, the metering step includes remote metering via a communications network.

Furthermore, in accordance with a preferred embodiment of the present invention, the remote metering includes communication via e-mail.

Still in accordance with a preferred embodiment of the present invention, the metering step is responsive to at least one characteristic of an X-ray image produced by said facility.

In accordance with a further preferred embodiment of the present invention, the method for management of X-ray imaging facilities and services also includes the step of providing a hard copy of an X-ray image produced by an X-ray exposure.

Moreover, in accordance with yet a further embodiment of the present invention, the method for management of X-ray imaging facilities and services includes the step of preparing a statistical report covering at least some of the X-ray exposures produced by the facility. Information contained in the statistical report may include periodic data regarding the number of accepted exposures, the number of rejected exposures, the overall area, typically, in square inches that was imaged, the number of images printed, dose per image or other data considered relevant to the service center.

There is also provided in accordance with a preferred embodiment of the present invention a system for management of X-ray imaging facilities and services including at least one digital X-ray imaging facility operative to provide digital images in response to X-ray exposures; a metering system associated with each of the digital X-ray imaging facilities for metering the number of digital images produced thereby; and a service center, generating a billing output for each of the digital X-ray

imaging facilities in respect of the number of X-ray exposures provided thereby.

Zur, col. 1, line 42 to col. 2, line 34 (emphasis added). And:

Reference is now made to FIG. 1, which is a diagrammatic view of a digital X-ray image acquisition and management system in accordance with a preferred embodiment of the present invention.

The digital X-ray image acquisition and management system includes at least one digital X-ray imaging facility 10. The digital X-ray imaging facility 10, which may be part of a hospital, private clinic or other X-ray imaging facility and which may form the equivalent of a conventional radiography X-ray room, includes a digital X-ray imaging system 12 and an operating and viewing station 14. The digital X-ray imaging facility 10 preferably includes a metering system 15 for tracking and reporting digital imaging usage statistics to an external service center 16 which handles usage-based billing and other services as described hereinbelow. External service center 16, which is typically associated with the provider of the digital X-ray imaging system 12, may also provide periodic on-site service and maintenance for the digital X-ray imaging system 12.

The digital X-ray imaging system 12, which preferably includes an X-ray generator 17 and a diagnostic radiographic table 18, may also include a digital chest stand 20 towards which X-ray generator 17 is swiveled for imaging thereon.

Suitable digital X-ray systems for digital X-ray imaging system 12 are conventional X-ray systems retrofitted with a digital X-ray detector or integrated systems including a digital X-ray detector, preferably modified to accommodate a metering system and internet connectivity as described herein. Examples of the digital X-ray systems include the DirectRay X-ray capture system that is manufactured and marketed by Sterling Diagnostic Imaging Corporation of Glasgow, Del. or the CXDI-11 manufactured and marketed by Canon Inc. Medical Equipment Group of Japan. Alternatively, the digital X-ray system 12 may include an image detection module as described in applicant's co-pending applications U.S. patent application Ser. No.

09/233,320 filed Jan. 20, 1999 and U.S. patent application Ser. No. 09/233,327 also filed Jan. 20, 1999 which are hereby incorporated by reference.

In accordance with an alternative embodiment of the present invention, digital X-ray imaging system 12 may be any other suitable digital diagnostic X-ray imaging system, such as mammographic or dental systems, which output digital representations of diagnostic transmission modulated X-ray images. It is appreciated that the use of digital X-ray detectors obviates the need for film/screen during X-ray imaging and the post-processing associated therewith.

It is appreciated that, due to the complex solid state electronics and manufacturing costs of digital X-ray systems, the end user price of digital X-ray systems is typically higher than conventional X-ray systems. In accordance with the model described herein, providers of digital X-ray system 12 may supply digital systems at prices which are reduced or competitive with conventional X-ray systems, or alternately, systems may be placed at customer facilities as part of a leasing arrangement. The provider, via the service center 16, receives a revenue stream from imaging procedures performed using the equipment. The user, benefits from "per image" expenses for digital X-ray imaging that are lower than the per image expenses associated with conventional X-ray imaging and film processing, handling etc.

Zur, col. 3, line 20 to col. 4, line 18 (emphasis added).

Thus, as evidenced by the passages relied upon by the Examiner (as well as other passages), the Zur reference appears to disclose local acquisition and viewing of X-ray images using an operating and viewing station 14, which is part of the digital X-ray imaging facility 10. Zur, Abstract, FIG. 1, col. 1, line 42 - col. 2, line 34; col. 3, line 20 - col. 4, line 33. A count of the usable or billable images acquired locally at the digital X-ray imaging facility 10 appears to be determined using the metering system 15 of the digital X-ray imaging facility and this count may be submitted to an external site, i.e., service center 16, which generates a bill based on the acquired X-ray images. Zur, col. 4, lines 4-18; col. 5, lines 19-34. In addition, the operating and viewing station 14 may

transfer compressed images over the Internet to a remote archive at the service center 16, however, the transferred images appear to only be archived, not reviewed, at the service center, i.e., the archival is provided as a “service” by the service center 16, not as part of a review operation. Zur, col. 4, lines 56-67. Indeed, the Zur reference states that such a transfer may occur “at any convenient time after imaging” and thus would not appear to be related to the processing or review of such images. *Id.*

With the foregoing passages and explanation of the Zur reference in mind, the following deficiencies of the Zur reference with respect to independent claim 1 are noted.

2. The Zur reference does not appear to disclose “reviewing information regarding an imaging system environment at a remote location”

Independent claim 1 recites “reviewing information regarding an imaging system environment at a remote location.”

As noted above, the Zur reference generally appears to disclose the acquisition and transmission of a count of images for which a bill can be generated. Such a count would not appear to relate to the imaging system environment even in the broadest sense of the term “environment”. That is, such a count would presumably tell one nothing about the circumstances, objects, or conditions surrounding the imaging system.

In addition, the Zur reference appears to disclose the acquisition of diagnostic images at the digital X-ray imaging facility 10 via operation of the operating and viewing station 14. Zur, FIG. 1, col. 3, line 26 - col. 4, line 33. As we understand the present rejection, the Examiner’s position is that such diagnostic images constitute “information regarding an imaging system environment.” Applicants continue to maintain that the Examiner’s position is baseless in that one skilled in the art with the benefit of the present disclosure would almost certainly not construe such a diagnostic image as providing information regarding the imaging system environment.

However, even if one accepts the Examiner's position for the sake of argument, the Zur reference still does not appear to disclose that such information, i.e., a diagnostic image, is reviewed at a remote location, as recited in claim 1. Instead, the Zur reference, as noted above, appears to only disclose viewing of the diagnostic images at the control and viewing station 14 of the X-ray imaging facility 10, i.e., locally. Zur, col. 4, lines 26-33, col. 5, lines 40-42. While the Zur reference does appear to contemplate the off-site storage or archiving of diagnostic images, such archiving is merely provided as a service for an additional fee and does not appear to involve any off-site (i.e., remote) review of the stored images. Zur, col. 4, lines 56-67, col. 6, line 63 to col. 7, line 4. Thus, even if a diagnostic image were construed to be "information regarding an imaging system environment", the Zur reference does not appear to disclose that such diagnostic images are reviewed at any location other than at the digital X-ray imaging facility 10.

3. The Zur reference does not appear to disclose "activating the imaging system from the remote location based on the information regarding the imaging system environment"

Independent claim 1 also recites "activating the imaging system from the remote location based on the information regarding the imaging system environment." Emphasis added.

As noted above, the Zur reference appears to disclose the acquisition and transmission of a count of X-ray images acquired to allow generation of a bill and the acquisition and transmission of diagnostic images themselves for archival purposes. Neither of these activities result in the remote activation of an imaging system based on this information, i.e., neither the count nor the image received for archiving result in activation of an imaging system from a remote location.

Indeed, the Zur reference appears to be entirely devoid of any teaching that an imaging system is activated from a remote location. Instead, the Zur reference teaches that the image acquisition is performed via the operating and viewing station 14, which is part of the digital X-ray imaging facility 10. Zur, FIG. 1, col. 3, lines 26-33; col. 4, lines

25-37, 60-64; col. 5, lines 40-47. Thus, the Zur reference does not appear to disclose the remote activation of an imaging system in any form or based upon any information.

However, even if such remote operation of an imaging system were disclosed in the Zur reference, the Zur reference still does not appear to teach that such remote activation is based on information regarding the imaging system environment, as recited in independent claim 1. In particular, even if a count of X-ray images provided for billing purposes or a diagnostic image transmitted to be archived were construed to be information about the imaging system environment, neither of these pieces of information appear to be used in a decision to activate an imaging system from a remote location. Thus, this aspect of independent claim 1 also appears to be absent from the Zur reference.

Further, this aspect of claim 1 further illustrates the precariousness of the Examiner's position. In particular, to the extent that the Examiner appears to be relying on diagnostic images to be the "information regarding an imaging system environment" recited in claim 1, such diagnostic images are apparently, in the Examiner's view, used as a criterion for their own acquisition, i.e., activating the imaging system. That is, the purpose of activating an imaging system is presumably to acquire images. In the Examiner's construction of claim 1, the acquired images would presumably be the basis for activation of the imaging system, i.e., acquiring the image. Such an interpretation is clearly circular and would appear to be unreasonable on its face.

Thus, for the reasons set forth above, Applicants respectfully submit that independent claim 1 and those claims depending from claim 1 are allowable over the Zur reference. Withdrawal of the present rejection is therefore respectfully requested.

Independent Claim 10

Independent claim 10 recites "a routine for providing information regarding an imaging system environment to a remote location" and "a routine for activating the imaging system upon receipt of a command from the remote location generated after

review of the information regarding the imaging system environment,” as generally discussed above with respect to independent claim 1. In particular, Applicants note that claim 10 recites computer readable storage structures storing computer-implementable routines designed to perform a method similar in subject matter to claim 1. Therefore, for the reasons set forth above with regard to the rejections of independent claim 1 and its dependent claims, Applicants respectfully submit that claims 10-16 are also allowable over the Zur reference. Withdrawal of the present rejection is therefore respectfully requested.

Request for Interview

In order to advance prosecution of the present application, Applicants respectfully request an interview for the present case at the Examiner’s earliest convenience after review of the preceding remarks.

Conclusion

In view of the remarks set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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